

Warren
Smith &
Partners

CONSULTING ENGINEERS

COMMERCIAL EXPERTISE STATEMENT

HYDRAULIC

FIRE

CIVIL

SYDNEY WATER ACCREDITED
WATER SERVICING
CO-ORDINATOR AND DESIGNER

BUSINESS AND GOALS

Warren
Smith &
Partners



BARANGAROO HEADLAND

Warren Smith & Partners Pty Limited, Consulting Hydraulic, Fire, and Civil Engineers, was founded on the 10th August, 1981.

We have been involved with over 6,000 projects of all development classifications and scale.

Our project experience extends to not only NSW and VIC, but throughout Australia and abroad.

Company Core Values:

- Partnerships and collaborations with our delivery partners
- Commitment to innovation and excellence
- Advancement of our staff through training and development
- Treat others like you would want to be treated

Our objectives are to:

- Produce and deliver excellent cost effective design
- Provide dependable professional service with unquestionable integrity
- Continually research and develop new design techniques
- Maintain our position as leaders in our profession
- Be friendly and approachable
- Co-operate within a team

THE TEAM



Our key personnel and directors have comprehensive industry experience and knowledge.
 Our managers, without exception are all long-term employees of the firm. Our key personnel are:



Warren Smith
Managing Director
 Years in Industry: 47
 Years with WS+P: 38



Andreas Heintze
Chief Operating Officer
 Years in Industry: 40
 Years with WS+P: 28



Michael Cahalane
Director
Civil & Water Engineering
 Years in Industry: 20
 Years with WS+P: 12



Tom Wise
Director
Hydraulic
 Years in Industry: 10
 Years with WS+P: 9



David Bolt
Project Manager
Fire
 Years in Industry: 24
 Years with WS+P: 24



Peter Brawley
State Manager
Victoria
 Years in Industry: 25
 Years with WS+P: 23



Campbell Hazelton
Project Manager
Hydraulic
 Years in Industry: 23
 Years with WS+P: 12



Ian Stone
Expertise Leader
Fire
 Years in Industry: 39
 Years with WS+P: 31



Grahame Barnes
Design Manager
Hydraulic
 Years in Industry: 38
 Years with WS+P: 33



Dirk Nagelschmidt
Project & Technical Manager
Hydraulic
 Years in Industry: 27
 Years with WS+P: 23

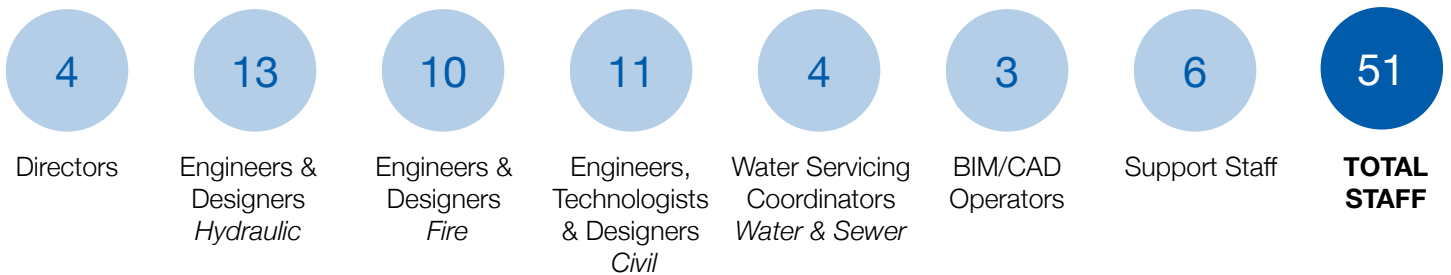


Daniel Power
Project Manager
Hydraulic
 Years in Industry: 16
 Years with WS+P: 6



Laura Shaughnessy
Project Manager
Civil & Water Engineering
 Years in Industry: 7
 Years with WS+P: 6

Currently, Warren Smith & Partners consists of the following directly employed staff:



Our engineers, technologists and designers are qualified profession members of the following organisations:-



WHAT WE DELIVER

Warren Smith & Partners offer skilled professionals, who are effective communicators and valued members of any team. Our team is supported by our progressive design and quality assurance systems.

With access to decades of design and engineering experience, matched by our young innovative staff, we present a dynamic team capable of delivering significant projects.

Our team has a thorough understanding of both common and unique engineering design challenges. Through our experience, we have developed design knowledge and strategies to maximise the usable space and minimise the cost of the development.

Our team applies our design skills to ensure that the documentation we produce, and the advice we provide, is tailored to meet individual project goals and challenges.

We focus on the delivery of a premium product to our clients, which in the long term, is proven to be the most cost effective, aesthetically pleasing and space efficient. We also recognise that it is not only engineering that makes for an effective outcome. Engineering needs to be backed up by astute management and understanding of the project timeline and deliverables.

We hope you enjoy the open, friendly, yet professional and skilled culture of our team, when embarking on your next project.

Warren Smith & Partners provide specialist engineering services:

- Due diligence, compliance, condition and investigation reporting
- Master planning, concept, and schematic design
- Design development and contract documentation
- Sustainable and strategic system capex and opex analysis
- Construction administration
- Project management
- Feasibility studies
- Risk management
- Safety in design analysis
- Fit for purpose analysis



MELBOURNE QUARTER

HYDRAULIC SERVICES

Warren Smith & Partners hydraulic services team has a proud history of providing accurate and cost effective innovative documentation and advice including negotiations with authorities for cost saving dispensations for our clients. The excellent and thorough service we provide is reflected in the number of repeat clients that our practice continues to work closely with.

Hydraulic services specialise in:

- Water services
- Sanitary plumbing systems
- Sanitary drainage systems
- Roof drainage systems (internal to the building)
- Surface and subsurface drainage systems (internal to the building)
- On-site trade waste systems
- Natural gas services
- Liquid petroleum gas services
- Process water systems, sanitary plumbing systems, sanitary drainage systems and on-site treatment systems for facilities

Software for design and analysis:

- Revit – design documentation and analysis
- Pipes building services – water pipe network hydraulic analysis
- SF pressure drop for windows – analysis software for fluids and gases
- T*Sol – domestic hot water system fuel energy analysis

Key personnel – NSW

Andreas Heintze
Chief Operating Officer
61 418 881 883
andreas@warrensmith.com.au



Campbell Hazelton
Project Manager – Hydraulic
61 419 013 565
campbell@warrensmith.com.au



Grahame Barnes
Design Manager – Hydraulic
61 419 980 842
grahame@warrensmith.com.au



Key personnel – VIC

Dirk Nagelschmidt
Project & Technical Manager –
Hydraulic
61 406 843 050
dirk@warrensmith.com.au



INTERNATIONAL TOWERS SYDNEY, TOWER 1
BARANGAROO

FIRE SERVICES

Warren Smith & Partners fire services team has a long and proud history of providing accurate and cost effective documentation and advice including negotiations with authorities for cost saving dispensations for our clients.

We sit on the Fire Protection Association Technical Advisory Committee to assist in improving the building code and Australian Standards for fire protection. Our key personnel are all accredited with the Fire Protection Association which is now recognised as satisfying the CFSP legislation.

Our practice provides a fully integrated design of fire sprinkler services, emergency warning services, fire alarm and control wiring within our documentation package to ensure that there are no loose ends between fire electrical and mechanical services which provides a major benefit in cost savings to our clients.

All fire sprinkler pipework sizing is hydraulically calculated by our engineers with computer software to ensure fire sprinkler systems will function correctly and in the most efficient way.

The excellent and thorough service we provide is reflected in the number of repeat clients that our practice continues to work very closely with.

Fire services specialise in:

- Fire sprinkler systems including deluge and dry pipe pre-action systems
- Combined fire sprinkler / hydrant systems for high rise buildings
- Fire hydrant systems
- Fire detection and alarm systems
- Fire hose reel systems
- Portable fire extinguishers
- Emergency warning and intercom systems (EWIS)
- Gaseous fire suppression systems
- Special hazards fire protection

Software for design and analysis:

- Revit – Design documentation and analysis
- Hydra cad – Sprinkler pipe network analysis
- Hyena – Fire services hydraulic analysis
- AutoSPRINK CAD – Revit plug-in

Key personnel – NSW

David Bolt

Project Manager – Fire

FPAS Accreditation Number:
FSD14563

61 425 256 922

david@warrensmith.com.au



Ian Stone

Expertise Leader – Fire

FPAS Accreditation Number:
FSD17478

61 407 207 286

ian@warrensmith.com.au



Key personnel – VIC

Peter Brawley

State Manager Victoria

FPAS Accreditation Number:
FSD20802

61 412 922 503

peter@warrensmith.com.au



BARAGAROO SOUTH

CIVIL SERVICES

Warren Smith & Partners civil and water engineering group was established in 1994 and has demonstrated expertise in a broad range of projects.

With outstanding, driven professionals we provide consulting and technical services to developers across all infrastructure, health, commercial and residential sectors.

These services range from initial planning and feasibility studies, site planning and design, detailed road, civil and services design, contract documentation through construction phase.

We are committed to collaborate with all stakeholders and their vision by providing cost-effective and innovative solutions to each project with reliability, innovation and quality.

Civil services specialise in:

- Hydrological, hydraulic and river systems modelling
- Flood studies
- Design of hydraulic structures, culverts, weirs etc
- On site detention modelling and design
- Water sensitive urban design (WSUD)
- Water balance modelling and design
- Urban drainage and overland flow design
- Stormwater management plans
- Road geometric design
- Flexible and rigid pavement design
- Intersection and roundabout design
- Linemarking and street signage design
- Bulk earthworks
- Erosion and sedimentation management plans
- Water Smart including the design of sewer/water treatment plants, pump stations and reticulation networks
- Pipeline design (water, sewer, stormwater) including design of trenchless systems

Software for design and analysis:

- 12D, CIVIL 3D and ARD – survey, road geometric, bulk earthworks and drainage analysis
- TUFLOW, DRAINS AND ILSAX – hydrologic, hydraulic and on-site detention analysis
- HEC-RAS – river and channel hydraulic analysis
- MUSIC – water quality modelling
- LiDAR – 3D satellite imagery
- CIRCLY – road pavement design
- Pipeclass – pipeline design
- Pipe Flow - Hydraulic Modelling

Key personnel – NSW

Michael Cahalane
Director – Civil & Water Engineering
61 433 522 569
michael@warrensmith.com.au



Preneshin Govender
Project & Technical Manager –
Civil & Water Engineering
61 424 634 529
preneshin@warrensmith.com.au



Key personnel – VIC

Laura Shaughnessy
Project Manager –
Civil & Water Engineering
61 479 053 997
laura.s@warrensmith.com.au



DARLING QUARTER

WATER AND SEWER ENGINEERING

Accredited Water Servicing Co-Ordinators and Designers

Warren
Smith &
Partners

Warren Smith & Partners water engineering team has been part of the practice since 1994 and is managed by senior professional staff with long connections to the business and industry.

We are fully licensed Water Servicing Coordinators and designers for Sydney Water, Hunter Water Corporation and Icon Water. We have developed positive relationships over the years built on a foundation of trust and a dedication to quality. The result is the ability of the team to obtain reasonable outcomes in a timely manner.

Our services cover the following:

Sydney Water Section 73 Applications

Hunter Water Section 50 Applications

Facilitation of building plan approval in accordance with Sydney Water guidelines

Water and wastewater engineering:

- Precinct master planning
- Feasibility, strategy studies and investigations
- Water network modelling and design
- Water and effluent reuse systems
- Sewerage reticulation and distribution pipe networks

The types of infrastructure services include:

- Watermains
- Sewer mains
- Pumping stations
- Stormwater channels
- Wastewater treatment plants
- Amplifications and renewals

The team is fully accredited to undertake design, and to project manage the construction of sewer, water, and stormwater assets of all sizes.

Construction Management:

Personnel on the ground understand the importance of completing works in accordance with construction programming.

By planning works with careful consideration of health & safety procedures, the satisfaction of utility asset inspection services is ensured and works can proceed unhindered.

Key personnel

Michael Cahalane
Director – Civil & Water Engineering
61 433 522 569
michael@warrensmith.com.au



Nick Watts
Team Leader – Sydney Water
61 430 139 685
nick@warrensmith.com.au



Jane Ciabattoni
Liaison Manager – Sydney Water
61 400 201 632
jane@warrensmith.com.au



COMMERCIAL PROJECTS

Some of the key commercial projects that we have provided consultancy services on include:

Warren
Smith &
Partners



Barangaroo South

Designed to house approximately 23,000 office workers Barangaroo is Australia's premier commercial hub for the Asia Pacific region, offering scale and quality on par with the world's best office precincts and located on our world famous Sydney Harbour. The three high-rise premium grade office buildings of International Towers Sydney collectively offer 280,000 sqm of office space.

Importantly, all three towers offer 6 star Green Star ratings and individual floorplates of up to 3,000 sqm+, making them Australia's most sustainable high rise office buildings. In order to achieve this milestone, various water saving strategies were incorporated into the hydraulic services design which included a precinct wide black water treatment plant for the recycling of waste water for toilet and urinal flushing, as well as for washdown cleaning purposes. Harvested rainwater from each of the tower roofs is stored, filtered and recycled for irrigation water supply to the landscaped podium roof terraces and the 'green' balconies on the tower office floor levels.

The three buildings of International Towers are over 150m in height up to over 200m. Buildings of this height require specialised fire suppression systems to deal with high system pressure requirements. A site wide combined fire sprinkler and hydrant system was established and engineered to supply all the commercial buildings on the precinct. A networked smoke detection and alarm system was also implemented. Each building also includes building dedicated boosting and fire control rooms / centres for fire brigade intervention.

Another commercial building within the Barangaroo South precinct is the impressive International House Sydney constructed in sustainable compressed laminated timber (CLT). This form of construction required a dedicated team of engineers to design the hydraulic and fire services to fit within the prefabricated limits of the construction.



COMMERCIAL PROJECTS

Some of the key commercial projects that we have provided consultancy services on include:



Darling Walk Redevelopment

The Darling Quarter precinct is a major 1.5 hectare place making project that has transformed the public domain of Darling Harbour, one of Australia's most visited destinations. The new \$500 million mixed use precinct integrates Commonwealth Bank Place, two large campus-styled 6 Star Green Star (world leadership) commercial buildings with 60,000m² of lettable office space.

The public domain includes new city pedestrian connections, a 3,000 square metre retail terrace with new cafes, restaurants and bars, generous grassed community areas, a 300 seat children's Theatre and an innovative playground as its centre piece.

The spectacular world-class 4,000 square metre playground is one of the largest illuminated playgrounds in the country and a regional attractor to the city. The playground is also one of Australia's largest play areas to integrate interactive water play in an urban landscaped environment.



COMMERCIAL PROJECTS

Some of the key commercial projects that we have provided consultancy services on include:



Liberty Place – 161 Castlereagh Street, Sydney

Liberty Place at 161 Castlereagh Street has been constructed as Sydney's newest premium grade office tower. It is the main office address for the ANZ Bank and is comprised of 42 storeys; 37 office levels totalling 60,000m² of lettable office space, ground floor retail, an outdoor dining area and parking. The building has views of the Harbour and Hyde Park and is the highest tower to be built in the CBD over the previous 10 years up to 2016.

The overall project encompasses several sites including the Heritage listed building, Legion House. The site also connects via a public walkway and plaza two major streets, making it one of Sydney's more interesting landmark developments.

The Green Building Council of Australia awarded the project a 6 Star Green Star – Office Design v2 rating, making it the largest office building in NSW to achieve this result.

.....



COMMERCIAL PROJECTS

Some of the key commercial projects that we have provided consultancy services on include:



420 George Street

420 George Street is a commercial and retail high rise tower located within the premium CBD retail and commercial hub of Pitt Street mall, Sydney. The building is provided with a 4 pressure zone combined sprinkler hydrant system. The fire detection, alarm and EWIS systems were designed to allow for extensive tenancy modifications without the need to upgrade the base building fire electrics infrastructure.

The hydraulic services for this A grade commercial and retail building with a total of 37,600 m² consists of 36 tower levels comprising 28 office levels, 4 retail levels, 2 basement car park levels, 2 plant levels and involved an efficient design solution that met the client requirements for flexibility and the 5-star Green Star (v2) target. A rainwater tank provides for the flushing of toilets and the irrigation water needs.

The base building retail arcade hydraulic services design allowed for the incorporation of the Virgin Active Gym with swimming pool without major redesign of the base building services.



COMMERCIAL PROJECTS

Some of the key commercial projects that we have provided consultancy services on include:

Warren
Smith &
Partners



126 Phillip Street, Sydney

The 160m high 126 Phillip Street is a fire engineered commercial building with 1444m² 'column less' floor plates, an atrium extending the height of the building that sits on a 14m high undercroft known as Deutsche Place (named after the major tenant Deutsche Bank). Aside from the required fire electrical designs, this impressive building required Warren Smith & Partners to provide an engineered fire services design of a cascade combined fire sprinkler / hydrant / hose reel system to meet the fire engineering requirements that became a great industry achievement.

COMMERCIAL PROJECTS

Some of the key commercial projects that we have provided consultancy services on include:



Optus Head Office, Macquarie Park

As part of the Optus Head Office development two (2) existing Sydney Water trunk mains, a DN1200 and a DN750, needed to be adjusted to cater for the new campus precinct. Warren Smith & Partners designed all civil works, including 1km of new roads, 2,000m³ of bio-retention basins and a 500m³ rainwater reuse tank. Warren Smith & Partners also oversaw the installation of a new Sydney Water sewer through a nearby environmentally sensitive creek.



COMMERCIAL PROJECT OVERVIEW

Warren
Smith &
Partners

Project Name	Hydraulic	Fire	Civil	Water Servicing Co-ordinator	Master planning	Concept Design	Schematic Design	Design Development	Contract Documents	Construction Administration	Peer Review	Workshop Drawings	Bid Documentation	Remediation
Two Melbourne Quarter (Tower C3) Project	✓	✓	✓		✓	✓	✓	✓	✓	✓				
Barangaroo South Commercial Towers T1, T2 & T3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		
Darling Walk Redevelopment, Harbour Street, Sydney	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		
Liberty Place, 161 Castlereagh Street, Sydney	✓	✓		✓	✓	✓	✓	✓	✓	✓				
Mid City Centre Redevelopment, 420 George Street, Sydney	✓	✓		✓	✓	✓	✓	✓	✓	✓				
126 Phillip Street, Sydney	✓	✓			✓	✓	✓	✓	✓	✓				
No. 1 Parramatta Square	✓			✓										
Optus Head Office, Macquarie Park	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
101 George Street, Parramatta	✓	✓		✓	✓	✓	✓	✓	✓	✓				
25 Smith Street, Parramatta	✓	✓		✓	✓	✓	✓	✓	✓	✓				
Lendlease Head Office, Hickson Road, The Rocks	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Abigroup Head Office, 924 Pacific Highway, Gordon	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
207 Pacific Highway, St Leonards – two (2) Office Towers	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		
International House – Barangaroo South	✓	✓			✓	✓	✓	✓	✓	✓				



BARANGAROO SOUTH

Warren Smith & Partners

CONSULTING ENGINEERS

WARREN SMITH & PARTNERS PTY LIMITED
CONSULTING ENGINEERS
ACN 002 197 088

Level 9, 233 Castlereagh St
SYDNEY NSW 2000
PHONE: 61 2 9299 1312

Level 4, 152 Elizabeth St
MELBOURNE VIC 3000
PHONE: 61 3 8648 9942

BOARD

Warren Smith
Managing Director
61 408 229 149
wjs@warrensmith.com.au

Andreas Heintze
Chief Operating Officer
61 418 881 883
andreas@warrensmith.com.au

Michael Cahalane
Director – Civil & Water
Engineering
61 433 522 569
michael@warrensmith.com.au

Tom Wise
Director – Hydraulic
61 438 669 473
tom@warrensmith.com.au

NEW SOUTH WALES

David Bolt
Project Manager – Fire
61 425 256 922
david@warrensmith.com.au

Campbell Hazelton
Project Manager – Hydraulic
61 419 013 565
campbell@warrensmith.com.au

Ian Stone
Expertise Leader – Fire
61 407 207 286
ian@warrensmith.com.au

Grahame Barnes
Design Manager – Hydraulic
61 419 980 842
grahame@warrensmith.com.au

Daniel Power
Project Manager – Hydraulic
61 401 382 024
daniel@warrensmith.com.au

Preneshin Govender
Project & Technical Manager –
Civil & Water Engineering
61 424 634 529
preneshin@warrensmith.com.au

Nick Watts
Team Leader – Sydney Water
61 430 139 685
nick@warrensmith.com.au

Jane Ciabattoni
Liaison Manager –
Sydney Water
61 400 201 632
jane@warrensmith.com.au

VICTORIA

Peter Brawley
State Manager Victoria
61 412 922 503
peter@warrensmith.com.au

Dirk Nagelschmidt
Project & Technical Manager
– Hydraulic
61 406 843 050
dirk@warrensmith.com.au

Laura Shaughnessy
Project Manager – Civil & Water
Engineering
61 479 053 997
laura.s@warrensmith.com.au

HYDRAULIC

FIRE

CIVIL

SYDNEY WATER ACCREDITED
WATER SERVICING
CO-ORDINATOR AND DESIGNER